from the power cable wires. Connect the power cables to the unit by fastening the stripped ends to the DC power connector.

Connect the power wires to the DC power source. The Power LED should indicate the presence of power.

WARNING: Note the wire colors used in making the positive and negative connections. Use the same color assignment for the connection at the DC power source.

NOTE: If mounting with a safety ground attachment, use the safety ground screw at the rear of the unit.

b. When using a Gx AN SFP model, insert the SFP Fiber transceiver into the Port 1 SFP receptacle on the Gx AN.

NOTE: The release latch of the SFP Fiber transceiver must be in the closed position before insertion.

c. Connect the UTP port via a Category 5 cable to a 1000BASE-T Ethernet device.

d. Connect an appropriate multimode or single-mode fiber cable to the fiber port of the installed module. It is important to ensure that the transmit (TX) is attached to the receive side of the device at the other end and the receive (RX) is attached to the transmit side. Single-fiber (SF) media converter models operate in pairs. The TX wavelength must match the RX wavelength at the other end and the RX wavelength must match the TX wavelength at the other end.

3) VERIFY OPERATION

Once the module has been installed and configured, per steps 1 and 2, verify the module is operational by viewing the status of the LED indicators. The table below provides a description for each LED indicator.

The Power LED indicates the module is receiving power from the chassis.

The Fiber Optic “FO” LED indicates the fiber optic connection between the modules has been established. A blinking LED indicates the presence of data, an auto-negotiation problem or a link mode error indication.

The UTP LEDs indicate the module has established a connection across its UTP port. A blinking LED indicates the presence of data.

LED Function "Legend"	Color	Off State	On / Blinking State
Power "Pwr"	Green	No power	On: Module has power
1000Mbps Fiber Optics "P1"	Green	No Fiber Link	On: Fiber Link Fast Blinking: Fiber Data Activity Slow Blinking: Signal detect but auto-negotiation has not completed or SFD error detected
Port 2 (UTP) Full-Duplex "FDX"	Green	Half-Duplex when any UTP link is active	On: Full-Duplex when any UTP link is active
Port 2 (UTP) 1000Mbps "P2"	Green	Not linked	On: UTP linked at 1000Mbps Fast Blinking: UTP Data Activity Slow Blinking: SFD error detected

Figure F: LED Indicators

Form 040-8500N-002 A 9/07

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iConverter Gx AN Standalone Module QUICK START GUIDE

The Omnitron *iConverter*® Gx AN Standalone media converter provides 1000BASE-T UTP to 1000BASE-FX fiber media conversion.

The Gx AN can be used to connect Gigabit file servers to Gigabit switches and connect switches with Gigabit fiber uplinks.

The Gx AN supports Full/Half-duplex auto and forced negotiation with both hardware and software manual override controls.

The Gx AN standalone module is an unmanaged device.

For more information, including the complete User Manual on the Gx AN Standalone module, access Omnitron’s documentation download web page to view all relevant documents:

http://www.omnitron-systems.com/downloads.php

INSTALLATION PROCEDURE

1) Configure DIP-Switches

2) Set-up Module and Connect Cables

3) Verify Operation

1) CONFIGURE DIP-SWITCHES

SW1 - Port 1 Auto/Manual Negotiation “AN MAN”

When this DIP-switch is in the Auto-Negotiate “AN” position (factory default), the fiber optic port is transparent to the network and allows the end devices connected to the module to advertise through the module and establish negotiated settings between the end devices. If Port 2 (UTP) is not connected, the fiber port will not be able to establish a fiber link. In the AN mode, the DIP-switches for Pause, Port 2 (UTP) and link modes RFD and SFD are ignored.

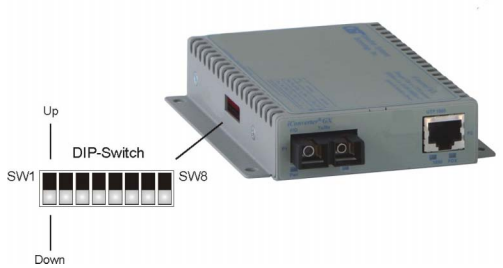

Figure A: DIP-Switch Location

If two Gx AN modules are linked together and Port 1 is configured for auto-negotiation, the mode of operation will be determined by the devices connected to Port 2 (UTP). Port 1 is transparent to the process.

When this DIP-switch is in the Manual “MAN” position, the advertised values of Port 2 is controlled by DIP-switches SW2 through SW5.

SW2 and SW3 - Port 2 (UTP) Settings “AN MAN” “FDX HDX”

These DIP-switches are only valid when Port 1 is set to “MAN”. Port 2 is always set to auto-negotiation and DIP-switches SW2 and SW3 only define what modes are advertised. See Figure C: Port 2 (UTP) Modes.

Switch	Down (Factory Default)	Up
SW1	**P1 AN:** Port 1 Fiber Auto-Negotiation	**P1 MAN:** Port 1 Fiber Manual Negotiation
SW2	**P2 AN:** Port 2 UTP Auto-Negotiation	**P2 MAN:** Port 2 UTP Manual
SW3	**FDX:** Port 2 UTP Full-Duplex	**HDX:** Port 2 UTP Half-Duplex
SW4	**OFF:** Port 2 Pause Advertisement Enable	**PAUSE:** Port 2 Pause Disable
SW5	**OFF:** Port 2 Asymmetric Pause Advertised	**ASYM:** Port 2 Asymmetric Pause Not Advertised
SW6 - SW8	**See Link Mode Table**	

Figure B: DIP-Switches

SW2	SW3	Port 2 (UTP) Modes of Operation
AN	FDX	Configured for Auto-Negotiation. It advertises and negotiates in this order: **1000FDX, 1000HDX**
AN	HDX	Configured for Auto-Negotiation. It advertises and negotiates: **1000HDX**
MAN	FDX	Configured for Forced-Negotiation. It advertises and negotiates: **1000FDX**
MAN	HDX	Configured for Forced-Negotiation. It advertises and negotiates: **1000HDX**

Figure C: Port 2 (UTP) Modes

SW4 and SW5 - Port 2 Pause Advertisement "OFF PAUSE" "OFF ASYM"

These DIP-switches are only valid when Port 1 is set to "MAN". The PAUSE modes will be based on the configuration of DIP-switches SW4 and SW5.

SW4	SW5	Port 2 (UTP) PAUSE Modes
OFF	OFF	No Pause advertised
OFF	ASYM	Asymmetric PAUSE towards link partner
PAUSE	OFF	Symmetric PAUSE
PAUSE	ASYM	Both Symmetric PAUSE and Asymmetric PAUSE toward local device

Figure D: Pause Modes

SW6, SW7, SW8 - Link Modes

These three DIP-switches configure the link mode settings. DIP-switch SW6 is valid when Port 1 is set to "AN" or "MAN". DIP-switches SW7 and SW8 are ignored when Port 1 is set to "AN". The following table details possible Link Mode DIP-switch configurations.

SW1	SW6	SW7	SW8	Result
Down (AN)	**Down**	**Down**	**Down**	Enables Link Segment mode (LS).
Down (AN)	**Up**	**Down**	**Down**	Enables Link Propagate mode (LP).
Up (MAN)	**Down**	**Down**	**Down**	Enables Link Segment mode (LS).
Up (MAN)	**Up**	**Down**	**Down**	Enables Link Propagate mode (LP).
Up (MAN)	**Down**	**Up**	**Down**	Enables Remote Fault Detection mode plus Link Segment mode (RFD+LS).
Up (MAN)	**Up**	**Up**	**Down**	Enables Remote Fault Detection mode plus Link Propagation mode (RFD+LP).
Up (MAN)	**Down**	**Down**	**Up**	Enables Symmetrical Fault Detect mode (SFD).
Up (MAN)	**Up**	**Down**	**Up**	Illegal Setting, Link Segment (LS) is selected.
Up (MAN)	**Down**	**Up**	**Up**	Illegal Setting, Link Segment (LS) is selected.
Up (MAN)	**Up**	**Up**	**Up**	Illegal Setting, Link Segment (LS) is selected.

Figure E: Link Mode Table

NOTE: Connecting two converters set to any of the RFD modes is illegal and will cause a "deadly embrace" lockup.

NOTE: It is recommended to keep the LS setting (default) until initial configuration is complete.

For detailed information on the operation of the different Link Modes, download the application note "*iConverter* Link Modes" available on Omnitron's web page:

http://www.omnitron-systems.com/downloads.php

2) SET-UP MODULE AND CONNECT CABLES

a. The Gx AN is available in tabletop and wall-mounting models. For wall-mounting, attach the unit to a wall, backboard or other flat surfaces. For tabletop installations, place the unit on a flat level surface. Attach the rubber feet to the bottom of the unit to prevent the unit from sliding. Make sure the unit is placed in a safe, dry and secure location.

   To power the unit using the AC/DC adapter, connect the AC/DC adapter to the AC outlet. Then connect the barrel plug at the end of the wire on the AC/DC adapter to the 2.5mm DC barrel connector (center-positive) on the chassis. Confirm that the unit has powered up properly by checking the power status LED located on the front of the unit.

   To power the unit using a DC power source, prepare a power cable using a two-conductor insulated wire (not supplied) with a 14 AWG gauge minimum. Cut the power cable to the length required. Strip approximately 3/8 of an inch of insulation